

REMARKS

I. Status of Claims :

Reconsideration and allowance of claims pending in the subject application are requested.

Claims 1-53 are pending in the subject application, and have been rejected in the subject Office Action, dated November 30, 2007, as follows:

A. Claims 1-5, 11-14, 16-23, 29-32 and 34-53 have been rejected under 35 USC 103 (a) as unpatentable over Kammer et al (ISBN: 1-928994-42-3, "Bluetooth Application Developer's Guide"), (hereafter, Kammer) and further in view of USP 6, 604,140 to J.E. Beck et al, issued August 5, 2003, filed September 23, 1999, (hereafter, Beck).

B. Claims 6-10, 15, 24-28 and 33 have rejected under 35 USC 103(a) as unpatentable over Kammer, of record in view of Beck, of record and in further view of USPAP 2005/0058149 to W. E. Howe, published March 17, 2005, filed September 22, 2004 (hereafter, Howe).

Independent claims 1, 19, 37, 45 and 53 have been amended to further clarify the claimed subject matter and delete unnecessary limitations in the preambles of the pending claims. Claims 1 - 18 and 45 - 53 have been converted to an Apparatus in place of a system. No new matter has been included in the amended claims

II. Response to the Rejections under 35 USC 103(a)

Applicants respond to the indicated Paragraphs of the subject Office Action, as follows:

Paragraph 1:

The Examiner comments are noted without response.

Paragraphs 2/3:

No evidence has been brought to the attention of Applicants' Attorney that the claimed subject matter was not commonly owned at the time the claimed subject matter was made.

Paragraph 4:

Applicants do not contest the factual inquires under Graham v Deere set forth by the Examiner.

Paragraph 5:

Claims 1-5, 11-14, 16-23, 29-32 and 34-53 include features, not disclosed or suggested, in the cited art of Kammer, of record in view of USP 6, 604,140 to J.E. Beck, of record and overcome the rejection under 35 USC 103 (a) thereof, as follows:

1. Claims 1, 19, 37, 45 and 53, as amended, describe features, not disclosed or suggested in the cited art, as follows:

(i) “conduct an inquiry ~~of the mobile ad-hoc communications network~~ to discover at least one nearby device, ~~the inquiry including an indication that said at least one nearby device may include a middleware layer, said middleware layer being middleware software for providing application and service discovery;~~ when ~~the an~~ an inquiry result includes ~~the an~~ indication that said at least one nearby device may include ~~the a~~ a middleware layer, the middleware layer comprising a middleware software for providing application and service discovery” :

a) The Examiner contends that Kammer a pages 20, 24, 41 and 42 in view of Beck at col. 2, lines 45-55 disclose the above feature (i). Applicants disagree, as follows:

First, the cited Kammer pages describe standard Bluetooth inquiry protocol for discovering devices followed by paging. There is no disclosure in Kammer for discovering from an inquiry result an indication of a middleware layer in a device providing application and service discover, as described in applicants' specification in Paragraph 0043. The indication is provided by modifying the Class of Device (CoD) field in the inquiry result. The field is modified by setting certain bits in the inquiry result to an "on or off state" to indicate middleware software for application and service discovery, as described in Paragraph 0043, supra.

Second, Beck at column 2, lines 45-55 does not supply the missing feature in Kammer relating to an inquiry result indicating the device may include a middleware layer for application and service discovery. The cited text simply describes the availability of a middleware layer that enables a device to use, discover and advertise services. The disclosure of middleware

for use and discovering of advertising services does not teach or suggest an inquiry result identifying middleware software for executing application and service discovery in an ad hoc network, as described applicants' specification at Paragraph 0043

Third, there is no teaching or suggestion in Kammer and Beck, alone or in combination, that would enable a worker skilled in the art to provide an inquiry result indicating that a device may include a layer for executing application and service discovery. Kammer does not disclose middleware software. Beck only discloses middleware software is available to use, discover and advertise services.. Neither disclosure suggests to a worker skilled in the art an inquiry result indicating executable middleware software in a device for providing application and service discovery.

(ii) - "create a wireless short-range connection to said at least one nearby device;"

a) The Examiner contends that Kammer at page 21 discloses creating a connection to at least one nearby device.

Applicants can find no disclosure or suggestion in Kammer where the connection to the nearby device is created only when one of the devices includes a middleware layer, as recited in feature (i) above and is described in applicants' specification at Paragraph 0044.

- confirm whether said at least one nearby device includes the middleware layer by requesting corresponding information from said at least one nearby device via the wireless short-range connection; and

a) The Examiner contends that Kammer at page 24 discloses confirming whether a nearby device includes a middleware layer.

Kammer at page 24 discloses " a basic data connection must

be set up before service discovery can be used.... Once the connections to service discovery is established, requests for information can be transmitted, and responses received back containing information on the service."

Kammer requires a data connection to be established between devices before service discovery can proceed. In contrast, applicants disclose that service discovery already is established in applicants device before a data connection is established, as described in applicants' specification at Paragraphs 0012 and 0043

- "when said at least one nearby device includes the middleware layer:

execute the middleware layer to perform application and service discovery."

a) The Examiner contends it would be obvious to a worker skilled in the art in view of Kammer and Beck to execute a middleware layer in a device to perform application and service discovery in an ad hoc network

Kammer at page 24 requires a data connection to be established before service discovery can proceed. Beck discloses middleware but there is no disclosure in Beck that the middleware is executed independent of a data connection required by Kammer.

In contrast, applicants disclose application and service discovery are already established before a data connection is established, as described in applicants' specification at Paragraph 0045..

Summarizing, Kammer in view of Beck fail to describe or suggest features recited in claim 1, as follows:

1. An inquiry result indicating the presence or absence of a middleware layer at an encountered device.

2. A wireless short-range connection establishment performed with the encountered nearby device in response to said encountered nearby device indicating the presence of a middleware layer .

3. The presence of the middleware layer in said encountered nearby device confirmed by requesting corresponding information from the encountered nearby device via the wireless short-range connection

4. Application and service discovery protocols established in a device in response to confirmation of the existence of the middleware layer for execution before the establishment of a data connection.

The cited art, alone or in combination, fails to describe or suggest at least the features 1-4 above, and described in claims 1, 19, 37, 45 and 53 for the reasons indicated above. The rejection of claim 1 under 35 USC 103 (a) is without support in the cited art. Withdrawal of the rejection and allowance of claims 1, 19, 37, 45 and 53 are requested.

2. Claims 2, 20, 38, 46 depend from independent claims 1, 19, 37 and 45, respectively and are patentable over the cited art on the same basis as the independent claim from which they depend.

3. Claims 3, 21, 39, and 47 depend from independent claims 1, 19, 37 and 45, respectively and are patentable over the cited art on the same basis as the independent claim from which they depend.

4. Claims 5, 23 depend from independent claim 1 and 19, respectively and are patentable over the cited art on the same basis as claim from which they depend.

5. Claims 4, 22, 40 and 48 depend from independent claims 1, 19, 37 and 45, respectively and are patentable over the cited art on the same basis as claim from which they depend.

6. Claims 11, 29, 41 and 49 depend from independent claims 1, 19, 37 and 45, respectively and are patentable over the cited art on the same basis as claim from which they depend.

7. Claims 12, 30, 42 and 50 depend from independent claims 1, 19, 37 and 45, respectively and are patentable over the cited art on the same basis as claim from which they depend.

8. Claims 13, 31 describe confirming recognition response messages. The Examiner has not identified in the cited pages nor has the applicant found any disclosure in Kammer at

page 24 or page 41 relating to confirming response messages. Claims 13 and 31 are patentable over the cited art in their own right.

9. Claims 14, 32 are patentable over the cited art in their own right. The Examiner has not identified in the cited pages nor has the applicant found any disclosure in Kammer at page 24 relating to confirming response messages.

10.. Claims 16, 34 are patentable over the cited art in their own right. The Examiner has not identified in the cited pages nor has the applicant found any disclosure in Kammer at page 24 relating to SDP messages serving as recognition messages.

11. Claims 17, 35, 41 and 51:

The Examiner contends that Beck at column 6, lines 45-67; col. 7, lines 12-25 and col. 8, lines 25-27 disclose storing an update to a combined application directory and sending an update message to a nearby device. Column 6, lines 45-67 discloses a service adapter interposed between a client and a service implementation enabling a combination of utilities. Column 7, lines 12-25 describes execution of services locally on a device or a remote device. Column 8, lines 25-27 describes replacing a service implementation with a new one.

None of the cited text suggest to a worker skilled in the art a combined application directory; updating the directory and sending an update message to a nearby device based on art in a different field of endeavor, i.e. using computing services over a network which may be an ad hoc network.

Applicants submit that claims 17, 35, 41 and 51 are distinguishable from and overcome the cited references

In any event claims 17, 35, 41 and 51 depend from independent claims 1,19, 37 and 45 , respectively and are patentable over the cited art on the same basis as the claim from which they depend.

12. Claims 18, 36, 44, 52:

The Examiner contends that Kammer modified by Beck at column 6, lines 45-67 describes the claimed subject matter. The cited text describes a service adapter interposed between a client and utilities for facilitating a combination of utilities. An adapter does not suggest launching an application in a device based on a reference in a directory and/or connecting the application to counterpart on at least one nearby device

A worker skilled in the art has no basis in the cited art to launch an application in a directory and connect the application to a counterpart application executing on a nearby device because there is no teaching to this effect in the cited references.

Applicants submit that claims 18, 36, 44 and 52 are distinguishable from and overcome the cited references

In any event claims 18, 36, 44 and 52 depend from independent claims 1, 19, 37 and 45, respectively and are patentable over the cited art on the same basis as the claim from which they depend.

Paragraph 6:

Claims 6-10, 15, 24-28 and 33 include features not disclosed or suggested in the cited art of Kammer, of record; Beck, of record, and Howe, of record and overcome the rejection under 235 USC 103 (a), as follows:

1. Claims 6, 24:

a) The Examiner contends that Kammer and Beck, as modified by Howe, disclose setting at least one bit in an inquiry result to a predetermined value is an indication of a middleware layer in a device. Applicant disagrees, as follows:

Howe in Figures 52-56 discloses exemplary bit fields for time reservation/schedule/slot request /assignment in time scheduled packets. The time scheduled packets may be routed /switched based on information in the packet at various layers and /or arrival time. Selecting at least one bit field to direct a packet in a time scheduled network does not equate to selecting at least one bit indicator identifying the status of a middleware layer and its' capabilities in an inquiry result to an inquiry from a nearby device in an ad hoc network.

Howe uses bit indicators to direct packets in a network. Applicants use bit indicator to advise other devices the status of software, i.e. middleware in an ad hoc network. Howe does not suggest to a worker skilled in the art a different use for bit indicators.

2. Claims 7, 25:

a) The Examiner contends that Kammer and Beck modified by Howe disclose the subject matter of claims 7 and 25.

Howe fails to disclose the subject matter of claims 7, 25 for the same reasons indicated in the consideration claims 6 and 24, namely Howe does not suggest to a worker skilled in the art a different use for bit indicators in time scheduled packets.

3. Claims 8, 26

See the consideration of claims 7, 25.

4. Claims 9, 27:

See the consideration of claims 7, 25.

5. Claims 10, 28:

See the consideration of claims 7, 25.

6. Claims 15, 33:

Kammer at page 20 describes discovering devices in a Bluetooth network; page 24 describes service discovery; page 41 describes software stack implementations, and page 42 describes upper and lower stack with respect a host controller interface (HCI).

Kammer and Beck modified by Howe all fail to describe recognition response message described in claims 15 and 33. There is no disclosure or suggestion in the cited art to enable a worker skilled in the art to implement the claimed subject matter based on the absence of the claimed subject matter in the cited art.

CONCLUSION

Applicants have distinguished the claims and overcome the cited art. Based on the foregoing amendments and remarks, Applicants respectfully request reconsideration and withdrawal of the rejection of claims and allowance of this application.

AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. **13-4500**, Order No. 4208-4114US1.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No. **13-4500**, Order No. 4208-4114US1.

Respectfully submitted,
MORGAN & FINNEGAN, L.L.P.

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/Joseph C. Redmond, Jr./
Joseph C. Redmond
Registration No. 18,753

Correspondence Address:
Address Associated With Customer Number:
27123

(212) 415-8700 Telephone
(212) 415-8701 Facsimile